

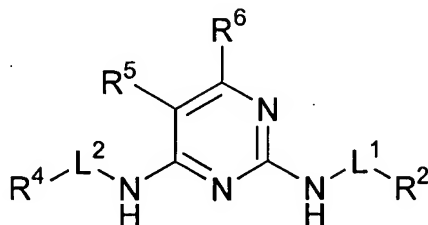
AMENDMENT

In the Claims

The following Listing of Claims, in which deleted text appears as ~~struck through~~ and inserted text appears underlined, will replace all prior listings, and versions, of claims in the application.

Listing of Claims

1. (currently amended) A method of treating ~~or preventing~~ an autoimmune disease and/or one or more symptoms associated therewith, comprising the step of administering to a subject suffering from an autoimmune disease ~~or at risk of developing an autoimmune disease~~ an effective amount of a 2,4-pyrimidinediamine compound according to structural formula (I):



and salts, hydrates, solvates and N-oxides thereof, wherein:

L¹ and L² are each, independently of one another, selected from the group consisting of a direct bond and a linker;

R² is selected from the group consisting of (C1-C6) alkyl optionally substituted with one or more of the same or different R⁸ groups, (C3-C8) cycloalkyl optionally substituted with one or more of the same or different R⁸ groups, cyclohexyl optionally substituted with one or more of the same or different R⁸ groups, 3-8 membered cycloheteroalkyl optionally substituted with one or more of the same or different R⁸ groups, (C5-C15) aryl optionally substituted with one or more of the same or different R⁸ groups, phenyl optionally substituted with one or more of the

same or different R^8 groups and 5-15 membered heteroaryl optionally substituted with one or more of the same or different R^8 groups;

R^4 is selected from the group consisting of hydrogen, (C1-C6) alkyl optionally substituted with one or more of the same or different R^8 groups, (C3-C8) cycloalkyl optionally substituted with one or more of the same or different R^8 groups, cyclohexyl optionally substituted with one or more of the same or different R^8 groups, 3-8 membered cycloheteroalkyl optionally substituted with one or more of the same or different R^8 groups, (C5-C15) aryl optionally substituted with one or more of the same or different R^8 groups, phenyl optionally substituted with one or more of the same or different R^8 groups and 5-15 membered heteroaryl optionally substituted with one or more of the same or different R^8 groups;

R^5 is selected from the group consisting of R^6 , (C1-C6) alkyl optionally substituted with one or more of the same or different R^8 groups, (C1-C4) alkanyl optionally substituted with one or more of the same or different R^8 groups, (C2-C4) alkenyl optionally substituted with one or more of the same or different R^8 groups and (C2-C4) alkynyl optionally substituted with one or more of the same or different R^8 groups;

each R^6 is independently selected from the group consisting of hydrogen, an electronegative group, $-OR^d$, $-SR^d$, (C1-C3) haloalkyloxy, (C1-C3) perhaloalkyloxy, $-NR^cR^c$, halogen, (C1-C3) haloalkyl, (C1-C3) perhaloalkyl, $-CF_3$, $-CH_2CF_3$, $-CF_2CF_3$, $-CN$, $-NC$, $-OCN$, $-SCN$, $-NO$, $-NO_2$, $-N_3$, $-S(O)R^d$, $-S(O)_2R^d$, $-S(O)_2OR^d$, $-S(O)NR^cR^c$, $-S(O)_2NR^cR^c$, $-OS(O)R^d$, $-OS(O)_2R^d$, $-OS(O)_2OR^d$, $-OS(O)NR^cR^c$, $-OS(O)_2NR^cR^c$, $-C(O)R^d$, $-C(O)OR^d$, $-C(O)NR^cR^c$, $-C(NH)NR^cR^c$, $-OC(O)R^d$, $-SC(O)R^d$, $-OC(O)OR^d$, $-SC(O)OR^d$, $-OC(O)NR^cR^c$, $-SC(O)NR^cR^c$, $-OC(NH)NR^cR^c$, $-SC(NH)NR^cR^c$, $-[NHC(O)]_nR^d$, $-[NHC(O)]_nOR^d$, $-[NHC(O)]_nNR^cR^c$ and $-[NHC(NH)]_nNR^cR^c$, (C5-C10) aryl optionally substituted with one or more of the same or different R^8 groups, phenyl optionally substituted with one or more of the same or different R^8 groups, (C6-C16) arylalkyl optionally substituted with one or more of the same or different R^8 groups, 5-10 membered heteroaryl optionally substituted with one or more of the same or different R^8 groups and 6-16 membered heteroarylalkyl optionally substituted with one or more of the same or different R^8 groups;

R^8 is selected from the group consisting of R^a , R^b , R^a substituted with one or more of the same or different R^a or R^b , $-OR^a$ substituted with one or more of the same or different R^a or R^b , $-B(OR^a)_2$, $-B(NR^cR^c)_2$, $-(CH_2)_m-R^b$, $-(CHR^a)_m-R^b$, $-O-(CH_2)_m-R^b$, $-S-(CH_2)_m-R^b$, $-O-CHR^aR^b$, $-O-CR^a(R^b)_2$, $-O-(CHR^a)_m-R^b$, $-O-(CH_2)_m-CH[(CH_2)_mR^b]R^b$, $-S-(CHR^a)_m-R^b$, $-C(O)NH-(CH_2)_m-R^b$, $-C(O)NH-(CHR^a)_m-R^b$, $-O-(CH_2)_m-C(O)NH-(CH_2)_m-R^b$, $-S-(CH_2)_m-C(O)NH-(CH_2)_m-R^b$, $-O-(CHR^a)_m-C(O)NH-(CHR^a)_m-R^b$, $-S-(CHR^a)_m-C(O)NH-(CHR^a)_m-R^b$, $-NH-(CH_2)_m-R^b$, $-NH-(CHR^a)_m-R^b$, $-NH[(CH_2)_mR^b]$, $-N[(CH_2)_mR^b]_2$, $-NH-C(O)-NH-(CH_2)_m-R^b$, $-NH-C(O)-(CH_2)_m-CHR^bR^b$ and $-NH-(CH_2)_m-C(O)-NH-(CH_2)_m-R^b$;

each R^a is independently selected from the group consisting of hydrogen, (C1-C6) alkyl, (C3-C8) cycloalkyl, cyclohexyl, (C4-C11) cycloalkylalkyl, (C5-C10) aryl, phenyl, (C6-C16) arylalkyl, benzyl, 2-6 membered heteroalkyl, 3-8 membered cycloheteroalkyl, morpholinyl, piperazinyl, homopiperazinyl, piperidinyl, 4-11 membered cycloheteroalkylalkyl, 5-10 membered heteroaryl and 6-16 membered heteroarylalkyl;

each R^b is a suitable group independently selected from the group consisting of $=O$, $-OR^d$, (C1-C3) haloalkyloxy, $=S$, $-SR^d$, $=NR^d$, $=NOR^d$, $-NR^cR^c$, halogen, $-CF_3$, $-CN$, $-NC$, $-OCN$, $-SCN$, $-NO$, $-NO_2$, $=N_2$, $-N_3$, $-S(O)R^d$, $-S(O)_2R^d$, $-S(O)_2OR^d$, $-S(O)NR^cR^c$, $-S(O)_2NR^cR^c$, $-OS(O)R^d$, $-OS(O)_2R^d$, $-OS(O)_2OR^d$, $-OS(O)_2NR^cR^c$, $-C(O)R^d$, $-C(O)OR^d$, $-C(O)NR^cR^c$, $-C(NH)NR^cR^c$, $-C(NR^a)NR^cR^c$, $-C(NOH)R^a$, $-C(NOH)NR^cR^c$, $-OC(O)R^d$, $-OC(O)OR^d$, $-OC(O)NR^cR^c$, $-OC(NH)NR^cR^c$, $-OC(NR^a)NR^cR^c$, $-[NHC(O)]_nR^d$, $-[NR^aC(O)]_nR^d$, $-[NHC(O)]_nOR^d$, $-[NR^aC(O)]_nOR^d$, $-[NHC(O)]_nNR^cR^c$, $-[NR^aC(O)]_nNR^cR^c$, $-[NHC(NH)]_nNR^cR^c$ and $-[NR^aC(NR^a)]_nNR^cR^c$;

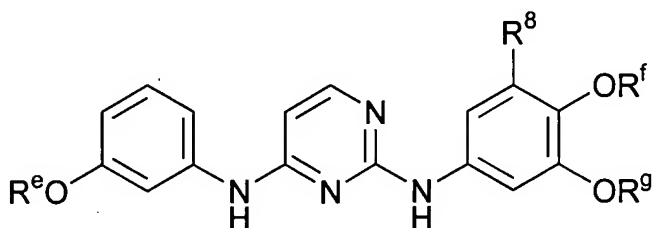
each R^c is independently a protecting group or R^a , or, alternatively, each R^c is taken together with the nitrogen atom to which it is bonded to form a 5 to 8-membered cycloheteroalkyl or heteroaryl which may optionally include one or more of the same or different additional heteroatoms and which may optionally be substituted with one or more of the same or different R^a or suitable R^b groups;

each R^d is independently an R^a ;

each m is independently an integer from 1 to 3; and

each n is independently an integer from 0 to 3, with the provisos that:

- (1) when L^1 is a direct bond and R^6 is hydrogen, then R^2 is not 3,4,5-tri (C1-C6) alkoxyphenyl;
- (2) when L^1 and L^2 are each a direct bond, R^2 is a substituted phenyl and R^6 is hydrogen, then R^5 is other than cyano or $-C(O)NHR$, where R is hydrogen or (C1-C6) alkyl;
- (3) when L^1 and L^2 are each a direct bond and R^2 and R^4 are each independently a substituted or unsubstituted pyrrole or indole, then the R^2 and R^4 are attached to the remainder of the molecule *via* a ring carbon atom; and
- (4) the compound is not a compound according to the formula:



wherein: R^e is (C1-C6) alkyl; R^f and R^g are each, independently of one another, a straight-chain or branched (C1-C6) alkyl which is optionally substituted with one or more of the same or different R^8 groups; and R^8 is as defined above.

2. (original) The method of **Claim 1** in which L^1 and L^2 are each, independently of one another, selected from the group consisting of a direct bond, (C1-C3) alkylidyl optionally substituted with one or more of the same or different R^9 groups and 1-3 membered heteroalkylidyl optionally substituted with one or more of the same or different R^9 groups, wherein:

R^9 is selected from the group consisting of (C1-C3) alkyl, $-OR^a$, $-C(O)OR^a$, (C5-C10) aryl optionally substituted with one or more of the same or different halogens, phenyl optionally substituted with one or more of the same or different halogens, 5-10 membered

heteroaryl optionally substituted with one or more of the same or different halogens and 6 membered heteroaryl optionally substituted with one or more of the same or different halogens; and

R^a is as defined in Claim 1.

3. (original) The method of **Claim 2** in which L^1 and L^2 are each, independently of one another, selected from the group consisting of methano, ethano and propano, each of which may be optionally monosubstituted with an R^9 group.

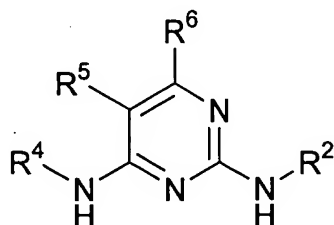
4. (original) The method of **Claim 3** in which the R^9 group is selected from the group consisting of $-OR^a$, $-C(O)OR^a$, halophenyl and 4-halophenyl, wherein R^a is as defined in Claim 1.

5. (original) The method of **Claim 1** in which R^6 is hydrogen.

6. (original) The method of **Claim 1 or 5** in which R^5 is selected from the group consisting of an electronegative group, halo, $-F$, $-CN$, $-NO_2$, $-C(O)R^a$, $-C(O)OR^a$, $-C(O)CF_3$, $-C(O)OCF_3$, (C1-C3) haloalkyl, (C1-C3) perhaloalkyl (C1-C3) haloalkoxy, (C1-C3) perhaloalkoxy, $-OCF_3$ and $-CF_3$.

7. (original) The method of **Claim 1** in which at least one of L^1 or L^2 is a direct bond.

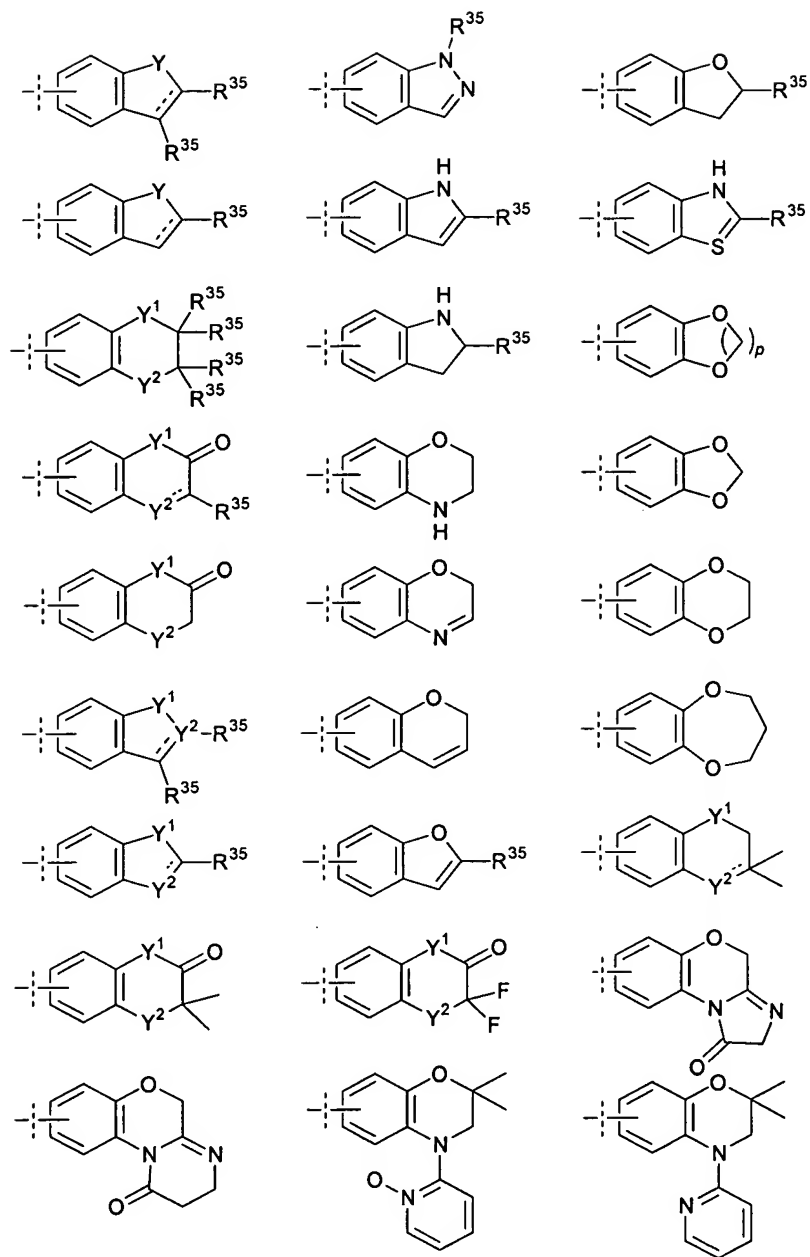
8. (currently amended) The method of **Claim 1** in which the 2,4-pyrimidinediamine compound is a compound according to the structure (Ia):

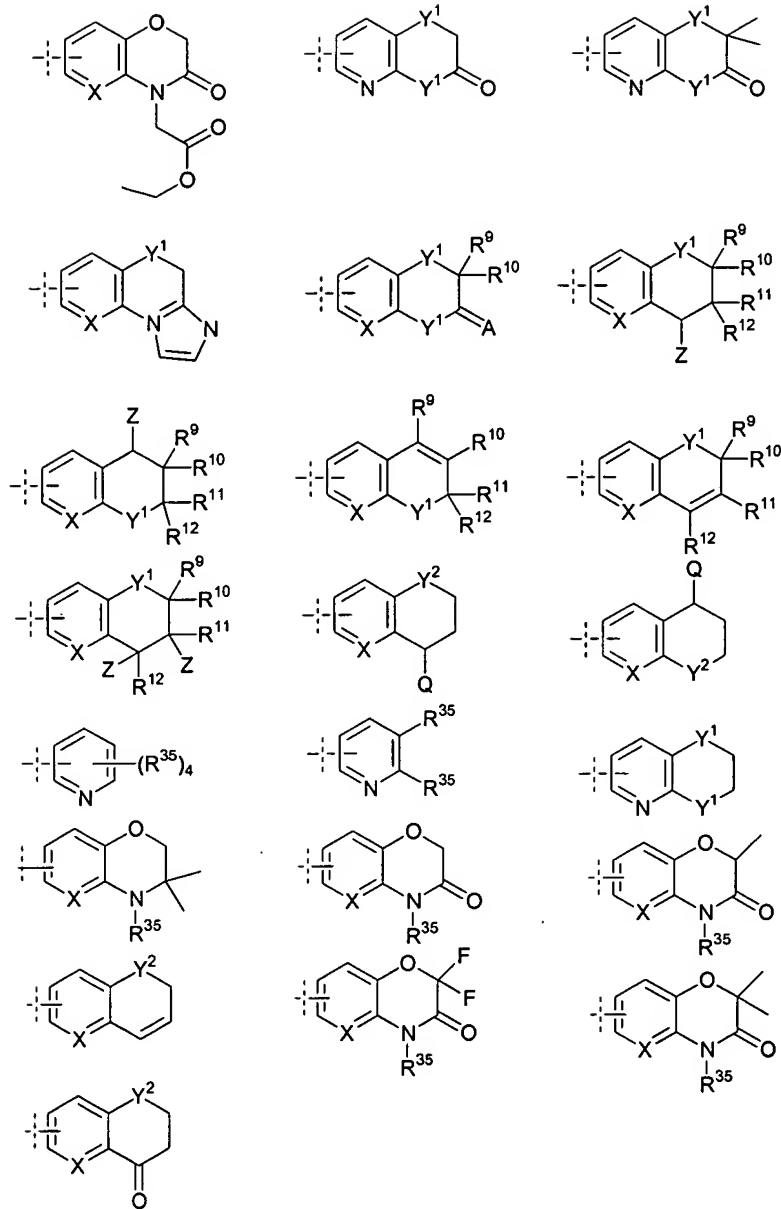


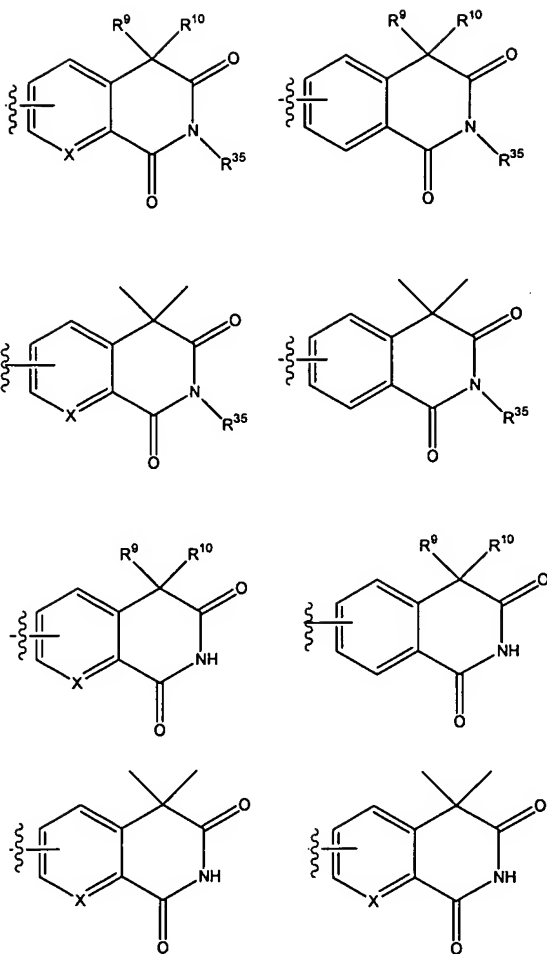
and salts, hydrates and solvates thereof, wherein R^2 , R^4 , R^5 and R^6 are as defined in Claim 1.

9. (original) The method of **Claim 8** in which R^2 is selected from the group consisting of phenyl, naphthyl, 5-10 membered heteroaryl, benzodioxanyl, 1,4-benzodioxan-(5 or 6)-yl, benzodioxolyl, 1,3-benzodioxol-(4 or 5)-yl, benzoxazinyl, 1,4-benzoxazin-(5,6,7 or 8)-yl, benzoxazolyl, 1,3-benzoxazol-(4,5,6 or 7)-yl, benzopyranyl, benzopyran-(5,6,7 or 8)-yl, benzotriazolyl, benzotrazol-(4,5,6 or 7)-yl, 1,4-benzoxazinyl-2-one, 1,4-benzoxazin-(5,6,7 or 8)-yl-2-one, 2H-1,4-benzoxazinyl-3(4H)-one, 2H-1,4-benzoxazin-(5,6,7 or 8)-yl-3(4H)-one, 2H-1,3-benzoxazinyl-2,4(3H)-dione, 2H-1,3-benzoxazin-(5,6,7 or 8)-yl-2,4(3H)-dione, benzoxazolyl-2-one, benzoxazol-(4,5,6 or 7)-yl-2-one, dihydrocoumarinyl, dihydrocoumarin-(5,6,7 or 8)-yl, 1,2-benzopyronyl, 1,2-benzopyron-(5,6,7 or 8)-yl, benzofuranyl, benzofuran-(4,5,6 or 7)-yl, benzo[b]furanyl, benzo[b]furan-(4,5,6 or 7)-yl, indolyl, indol-(4,5,6 or 7)-yl, pyrrolyl and pyrrol-(1 or 2)-yl, each of which may be optionally substituted with one or more of the same or different R^8 groups, where R^8 is as defined in Claim 1.

10. (currently amended) The method of **Claim 8** in which R^2 and/or R^4 are each, independently of one another, an optionally substituted heteroaryl selected from the group consisting of:







wherein:

p is an integer from one to three;

each --- independently represents a single bond or a double bond;

R^{35} is hydrogen or R^8 , where R^8 is as previously defined in Claim 1;

X is selected from the group consisting of CH, N and N-O;

each Y is independently selected from the group consisting of O, S and NH;

each Y^1 is independently selected from the group consisting of O, S, SO, SO_2 , $SONR^{36}$, NH and NR^{37} ;

each Y^2 is independently selected from the group consisting of CH, CH_2 , O, S, N, NH and NR^{37} ;

R^{36} is hydrogen or alkyl;

R^{37} is selected from the group consisting of hydrogen and a progroup, preferably hydrogen or a progroup selected from the group consisting of aryl, arylalkyl, heteroaryl, R^a , $R^bCR^aR^b-O-C(O)R^8$, $-CR^aR^b-O-PO(OR^8)_2$, $-CH_2-O-PO(OR^8)_2$, $-CH_2-PO(OR^8)_2$, $-C(O)-CR^aR^b-N(CH_3)_2$, $-CR^aR^b-O-C(O)-CR^aR^b-N(CH_3)_2$, $-C(O)R^8$, $-C(O)CF_3$ and $-C(O)-NR^8-C(O)R^8$;

R^{38} is selected from the group consisting of alkyl and aryl;

A is selected from the group consisting of O, NH and NR^{38} ;

R^9 , R^{10} , R^{11} and R^{12} are each, independently of one another, selected from the group consisting of alkyl, alkoxy, halogen, haloalkoxy, aminoalkyl and hydroxyalkyl, or, alternatively, R^9 and R^{10} and/or R^{11} and R^{12} are taken together form a ketal;

each Z is selected from the group consisting of hydroxyl, alkoxy, aryloxy, ester, carbamate and sulfonyl;

Q is selected from the group consisting of $-OH$, OR^8 , $-NR^cR^c$, $-NHR^{39}-C(O)R^8$, $-NHR^{39}-C(O)OR^8$, $-NR^{39}-CHR^{40}-R^b$, $-NR^{39}-(CH_2)_m-R^b$ and $-NR^{39}-C(O)-CHR^{40}-NR^cR^c$;

R^{39} and R^{40} are each, independently of one another, selected from the group consisting of hydrogen, alkyl, aryl, ~~alkylaryl~~, ~~arylalkyl~~, alkylaryl, arylalkyl and NHR^8 ; and

R^a , R^b and R^c are as previously defined in Claim 1.

11. (original) The method of **Claim 10** in which R^2 and R^4 are the same.

12. (original) The method of **Claim 10 or 11** in which each R^{35} is independently selected from the group consisting of hydrogen, R^d , $-NR^cR^c$, $-(CH_2)_m-NR^cR^c$, $-C(O)NR^cR^c$, $-(CH_2)_m-C(O)NR^cR^c$, $-C(O)OR^d$, $-(CH_2)_m-C(O)OR^d$ and $-(CH_2)_m-OR^d$, where m , R^c and R^d are as defined in Claim 1.

13. (original) The method of **Claim 12** in which each m is one.

14. (original) The method of **Claim 8** in which R^2 is an optionally substituted heteroaryl which is attached to the remainder of the molecule *via* a ring carbon atom.

15. (original) The method of **Claim 8** in which R^4 is an optionally substituted heteroaryl which is attached to the remainder of the molecule *via* a ring carbon atom.

16. (original) The method of **Claim 8** in which R^2 and/or R^4 are each, independently of one another, a phenyl optionally substituted with one, two or three R^8 groups, where R^8 is as defined in Claim 1.

17. (original) The method of **Claim 16** in which R^2 and R^4 are each the same or different optionally substituted phenyl.

18. (original) The method of **Claim 16 or 17** in which the optionally substituted phenyl is *mono* substituted.

19. (original) The method of **Claim 18** in which the R^8 substituent is at the *ortho*, *meta* or *para* position.

20. (original) The method of **Claim 19** in which R^8 is selected from the group consisting of (C1-C10) alkyl, (C1-C10) branched alkyl, $-OR^d$, $-O-(CH_2)_m-NR^cR^c$, $-O-C(O)NR^cR^c$, $-O-(CH_2)_m-C(O)NR^cR^c$, $-O-C(O)OR^a$, $-O-(CH_2)_m-C(O)OR^a$, $-O-C(NH)NR^cR^c$, $-O-(CH_2)_m-C(NH)NR^cR^c$, $-NH-(CH_2)_m-NR^cR^c$, $-NH-C(O)NR^cR^c$ and $-NH-(CH_2)_m-C(O)NR^cR^c$, where m , R^a , R^c and R^d are as defined in Claim 1.

21. (original) The method of **Claim 16 or 17** in which the optionally substituted phenyl is a disubstituted phenyl.

22. (original) The method of **Claim 21** in which the R^8 substituents are positioned 2,3-; 2,4-; 2,5-; 2,6-; 3,4-; or 3,5-.

23. (original) The method of **Claim 21** in which each R^8 is independently selected from the group consisting of (C1-C10) alkyl, (C1-C10) branched alkyl, $-OR^a$ optionally substituted with one or more of the same or different R^a or R^b groups, $-O-(CH_2)_m-NR^cR^c$, $-O-C(O)NR^cR^c$,

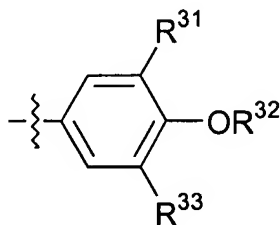
-O-(CH₂)_m-C(O)NR^cR^c, -O-C(O)OR^a, -O-(CH₂)_m-C(O)OR^a, -O-C(NH)NR^cR^c,
 -O-(CH₂)_m-C(NH)NR^cR^c, -NH-(CH₂)_m-NR^cR^c, -NH-C(O)NR^cR^c and -NH-(CH₂)_m-C(O)NR^cR^c,
 where *m*, R^a, R^b and R^c are as defined in Claim 1.

24. (original) The method of **Claim 16 or 17** in which the optionally substituted phenyl is trisubstituted.

25. (currently amended) The method of **Claim 24** in which the R⁸ substituents are positioned ~~2,3,4-; 2,3,5-; 2,3,6-; 2,4,5-; 2,4,6-; 2,5,6-; or 3,4,5~~ 2,3,4-; 2,3,5-; 2,3,6-; 2,4,5-; 2,4,6-; 2,5,6-; or 3,4,5-.

26. (original) The method of **Claim 25** which each R⁸ is independently selected from the group consisting of (C1-C10) alkyl, (C1-C10) branched alkyl, -OR^a optionally substituted with one or more of the same or different R^a or R^b groups, -O-(CH₂)_m-NR^cR^c, -O-C(O)NR^cR^c,
 -O-(CH₂)_m-C(O)NR^cR^c, -O-C(O)OR^a, -O-C(NH)NR^cR^c, -O-(CH₂)_m-C(O)OR^a,
 -O-(CH₂)_m-C(NH)NR^cR^c, -NH-(CH₂)_m-NR^cR^c, -NH-C(O)NR^cR^c and -NH-(CH₂)_m-C(O)NR^cR^c,
 where *m*, R^a, R^b and R^c are as defined in Claim 1.

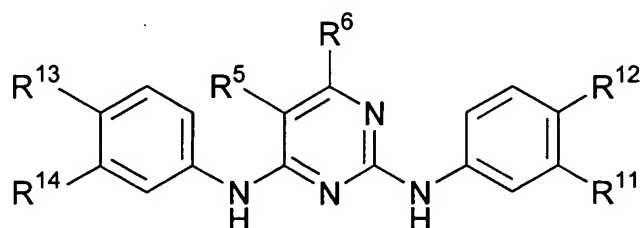
27. (original) The method of **Claim 24** in which the trisubstituted phenyl has the formula:



wherein: R³¹ is methyl or (C1-C6) alkyl; R³² is hydrogen, methyl or (C1-C6) alkyl; and R³³ is a halo group.

28. (original) The method of **Claim 17** in which R^2 and R^4 are the same.

29. (currently amended) The method of **Claim 8** in which the 2,4-pyrimidinediamine compound is a compound according to structural formula (Ib):

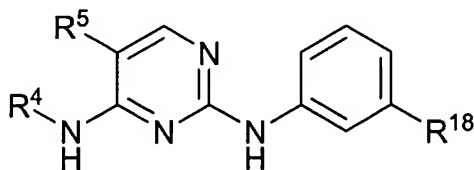


and salts, hydrates, solvates and N-oxides thereof, wherein R^{11} , R^{12} , R^{13} and R^{14} are each, independently of one another, selected from the group consisting of hydrogen, hydroxy, (C1-C6) alkoxy and $-NR^cR^c$; and R^5 , R^6 and R^c are as defined in Claim 1.

30. (original) The method of **Claim 29** in which R^{11} , R^{12} , R^{13} and R^{14} are each hydrogen.

31. (original) The method of **Claim 29** in which R^{12} and R^{13} are each hydrogen.

32. (original) The method of **Claim 8** in which the 2,4-pyrimidinediamine compound is a compound according to structural formula (Ic):



and salts, hydrates, solvates and N-oxides thereof, wherein:

R^4 is phenyl optionally substituted with from 1 to 3 of the same or different R^8 groups or 5-14 membered heteroaryl optionally substituted with from 1 to 4 of the same or different R^8 groups;

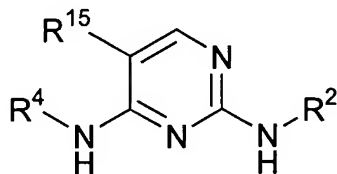
R^5 is an electronegative group, F or CF_3 ; and

R^{18} is $-O(CH_2)_m-R^b$, where m and R^b are as defined in Claim 1.

33. (original) The method of **Claim 32** in which R^4 is an optionally substituted heteroaryl.

34. (original) The method of **Claim 32** in which R^8 is $-O-CH_2-C(O)-NHCH_3$.

35. (original) A method according to **Claim 1** in which the 2,4-pyrimidinediamine compound is a compound according to structural formula (Id):



and salts, hydrates, solvates and N-oxides thereof, wherein:

R^2 and R^4 are as defined in Claim 1; and

R^{15} is an electronegative group,

with the provisos that:

(1) when R^2 is 3,4,5-tri (C1-C6) alkoxyphenyl and R^{15} is halogen, then R^4 is not 3,4,5-tri (C1-C6) alkoxyphenyl; and

(2) when R^2 is a substituted phenyl group, then R^{15} is other than cyano or $-C(O)NHR$, where R is hydrogen or (C1-C6) alkyl.

36. (original) The method of **Claim 37** in which when R^{15} is halogen or nitro, then R^2 is not 3,4,5-tri (C1-C6) alkoxyphenyl.

37. (original) The method of **Claim 38** in which R¹⁵ is selected from the group consisting of -CN, -NC, -NO₂, halogen, -F, (C1-C3) haloalkyl, (C1-C3) perhaloalkyl, (C1-C3) fluoroalkyl, (C1-C3) perfluoroalkyl, -CF₃, (C1-C3) haloalkoxy, (C1-C3) perhaloalkoxy, (C1-C3) fluoroalkoxy, (C1-C3) perfluoroalkoxy and -OCF₃.

38. (original) The method of **Claim 39** in which R¹⁵ is selected from the group consisting of halo, Br, F, -CF₃ and -NO₂.

39. (original) The method of **Claim 1** in which the 2,4-pyrimidinediamine compound is selected from the group consisting of compounds R921302, R926891, R940323, R940347 and R921303.

40. (currently amended) The method of ~~any one of Claims 1-39~~ **Claim 1** in which the compound is administered in the form of a pharmaceutical composition comprising the compound and a pharmaceutically acceptable carrier, diluent or excipient.

41. (cancelled)

42. (currently amended) The method of ~~any one of Claims 1-39~~ **Claim 1** in which the subject is a human.

43. (currently amended) The method of ~~any one of Claims 1-39~~ **Claim 1** in which the autoimmune disease is selected from the group consisting autoimmune diseases that are frequently designated as single organ or single cell-type autoimmune disorders and autoimmune disease that are frequently designated as involving systemic autoimmune disorder.

44. (original) The method of **Claim 43** in which the autoimmune disease is selected from the group consisting of Hashimoto's thyroiditis, autoimmune hemolytic anemia, autoimmune atrophic gastritis of pernicious anemia, autoimmune encephalomyelitis, autoimmune orchitis, Goodpasture's disease, autoimmune thrombocytopenia, sympathetic ophthalmia, myasthenia

gravis, Graves' disease, primary biliary cirrhosis, chronic aggressive hepatitis, ulcerative colitis and membranous glomerulopathy.

45. (original) The method of **Claim 43** in which the autoimmune disease is selected from the group consisting of systemic lupus erythematosus, rheumatoid arthritis, Sjogren's syndrome, Reiter's syndrome, polymyositis-dermatomyositis, systemic sclerosis, polyarteritis nodosa, multiple sclerosis and bullous pemphigoid.

46. (original) The method of **Claim 45** in which the autoimmune disease is systemic lupus erythematosus.

47. (original) The method of **Claim 45** in which the autoimmune disease is rheumatoid arthritis.

48. (original) The method of **Claim 45** in which the autoimmune disease is multiple sclerosis.